

WHAT IS CLAIMED IS:

1. A lithographic apparatus, comprising:
  - an illumination system that supplies a beam of radiation;
  - a patterning array including individually controllable elements that selectively divide the beam of radiation into a plurality of sub-beams modulated according to a desired pattern on the patterning array;
  - an array of microlens sets, each microlens set having an aperture stop and forming an image from a respective one of said individually controllable elements in a first plane;
  - an array of field microlenses, each field microlens forming an image of the aperture stop of a respective one of said microlens sets in a second plane;
  - and
  - a substrate table that supports a substrate in said second plane, such that the substrate is positioned to receive the image of the aperture stop;
  - wherein a spacing of elements in said patterning array, said array of microlens sets, and said array of field microlenses is the same.
2. The apparatus according to claim 1, wherein said patterning array, said array of microlens sets, and said array of field microlenses each have a width in the range of from about 50mm to about 500mm.
3. The apparatus according to claim 1, wherein said array of microlens sets comprises a two arrays of microlenses and an array of aperture stops.
4. The apparatus according to claim 1, wherein at least two of said patterning arrays, said array of microlens sets, and said array of field

microlenses are formed using a lithographic process using a single mask or mask set to form the basic array structure for each array.

5. A device manufacturing method comprising:
  - producing a projection beam of radiation using an illumination system;
  - selectively dividing the beam of radiation into a plurality of sub-beams modulated according to a desired pattern using a patterning array including individually controllable elements;
  - forming an image of each of said individually controllable elements in a first plane using an array of microlens sets, each microlens set having an associated aperture stop; and
  - forming an image of the aperture stop of a respective one of said microlens sets in a second plane using an array of field microlenses; and
  - position said substrate in said second plane, such that said substrate receives the image of the aperture stop,
  - wherein the spacing between elements in the patterning array, the array of microlens sets, and the array of field microlenses is the same.

6. A lithographic apparatus, comprising:

a first array including individually controllable elements that selectively pattern a beam of radiation;

a second array including sets of lenses and apertures stops that form an image from a respective one of said individually controllable elements in a first plane;

a third array including lenses that form an image from a respective one of said second array in a second plane; and

a substrate table that positions a substrate in said second plane, such that the substrate receives the image from the respective one of said second array,

wherein a same spacing is formed between elements in said first, second, and third arrays.

7. A lithographic method, comprising:

(a) selectively patterning a beam of radiation using individually controllable elements in a first array;

(b) forming an image from a respective one of the individually controllable elements in a first plane using a second array including sets of lenses and apertures stops;

(c) forming an image from a respective one of the second arrays in a second plane using a third array of lenses;

(d) positioning a substrate in the second plane, such that the substrate receives the image from step (c); and

(e) forming a same spacing between elements in the first, second, and third arrays.